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ABSTRACT

Determinants of Schaefer's (1965) three dimensions of perceived parenting (Acceptance vs. Rejection, Psychological Control vs. Psychological Autonomy, and Firm vs. Lax Control) were investigated by administering a shortened Children's Reports of Parental Behavior Inventory to adolescent twins. The sample consisted of 46 pairs of identical twins and 43 pairs of fraternal twins residing with their natural parents. Analyses indicated that assumptions of the twin method were upheld and that neither sex main effects nor sex X zygosity interactions existed. The main analyses revealed that mothers' and fathers' use of Firm vs. Lax Control and Psychological Control vs. Psychological Autonomy was entirely determined by between family environmental factors. However, perception of Acceptance--Rejection showed evidence of genetic determination. (Author/MP)

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Environmental and Genetic Influence on Dimensions of Perceived Parenting: A Twin Study

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Environmental and Genetic Influence on Dimensions of Perceived Parenting: A Twin Study

Abstract

Determinants of Schaefer's (1965) three dimensions of perceived parenting were investigated by administering a shortened Children's Reports of Parental Behavior Inventory to adolescent twins. The sample consisted of 46 pairs of identical twins and 43 pairs of fraternal twins residing with their natural parents. Analyses indicated that assumptions of the twin method were upheld and that neither sex main effects nor sex X zygosity interactions existed. The main analyses revealed that mothers' and fathers' use of Firm vs. Lax Control and Psychological Control vs. Psychological Autonomy was entirely determined by between family environmental factors. However, perception of Acceptance-Rejection showed evidence of genetic determination.

Factor analyses of Schaefer's (1965) Children's Reports of Parental Behavior Inventory have consistently revealed that three factors--Acceptance vs. Rejection, Psychological Control vs. Psychological Autonomy, and Firm vs. Lax Control--capture the main variation in perceived parenting and replicate across sex and age groups adequately. Moreover, these rearing dimensions have been found to relate to child personality and adjustment (Goldin, 1969). While the correlates of perceived parenting have received considerable attention, few studies have examined the determinants of the perceptions themselves. A major issue is interpretation of the direction of effects involved in these perceptions. In a parents effects model, they can be seen as representing perception of a rearing environment imposed by the parents; in a child effects model, as representing parental behaviors elicited by the child's temperament; in an interactive model, as representing the child's idiosyncratic reaction to the home environment. The present study uses the twin methodology to explore these alternative interpretions of influence on perception of parenting.

The three hypothesies about the origin of these perceptions can be translated into predictions about twin similarity. The first hypothesis, emphasizing parental effects, corresponds to the traditional view that the direction of rearing effects is from parent to child but adds the stipulation that the same rearing practices, age appropriately, are applied to all children. Association of rearing practices with the nature of the parent, for instance, coercive rearing with authoritarianism (Levinson and Hoffman, 1955), and the parents greater relative power, support this interpretation of rearing effects. Two studies have reported that parents use the same rearing techniques for siblings (for first and second siblings, Lasko, 1954; for twins, Cohen, Dibble, and Grawe, 1977). While these

data do not directly address similarity of perceptions of parenting, they do suggest that home environments might be uniform in a way that would lead to similar perceptions on the part of twins or siblings close in age. Formally, the parents effect model predicts twin pair correlations are positive, significant, and of about equal magnitude for identical and fraternal pairs.

It is now recognized in developmental psychology that some traits are partly genetically determined and that parenting may be shaped by these temperaments (Thomas and Chess, 1977). Thus, a second alternative emphasizes how a child's characteristics may elicit parental behavior. In a provocative analysis of the direction of effects issue, Bell (1968) observed that Schaefer's rearing dimensions, typically ascribed to parental effects, can be regarded as representing dimensions of response to child personality, for instance, Acceptance vs. Rejection might correspond to a system of child effects on parents resulting from temperamental levels of assertiveness. Even if temperament does not evoke rearing practices, it may nevertheless influence these perceptions--for example, a neurotic child may feel unloved, despite parents who show ordinary signs of love and affection. Unfortunately, these two alternatives cannot be separated using the present data because neither direct observations of parent behavior nor parents' reports of their own behavior are available. However, if these perceptions are genetically influenced, then twin correlations for identical twins should exceed those for fraternal twins whose temperaments are more dissimilar.

A third hypothesis assumes that perceptions of parenting are due to idiosyncratic factors that are likely to affect each sibling differently. For example, one twin but not the other might experience a temporary mood state that leads to rejection of his or her parents. In a rare sibling study of

of perceived parenting, Stott (1941) found that the sib correlation for Acceptance vs. Rejection was insignificant and concluded that the objective home environment was inconsistent from one child to another. Although these data fit the third hypothesis, they are weakened somewhat by the use of a fairly crude measure of perceived parenting and by the siblings' age gaps which might reasonably justify different rearing practices. In the present study, use of a twin sample controls for age and selection of Schaefer's Children's Reports of Parental Behavior Inventory provides a validated measure of perceived parenting. It should be noted that the three hypotheses represent extreme outcomes and should not be misinterpreted as excluding the possibility of mixed environmental and genetic influence on perceptions of parenting.

METHOD

As part of the Oberlin College Twin study of adolescent personality, same-sex twins were surveyed by questionnaire through high schools and twin clubs in Ohio. The twins' zygosity was diagnosed based on physical traits (e.g., eye color, height) according to the criteria of Nichols and Bilbro (1966). Pairs of uncertain zygosity (10% of total) and all twins who did not reside with their natural parents were omitted; the nearly perfectly balanced sample consists of 46 identical twin pairs and 43 fraternal twin pairs, mean age 17.3 years, all in grades 8-12 except for four seventh graders and on college pair, and primarily from working class backgrounds (modal fathers' education = high school graduate). The twins were disproportionately female (61.1%), which is not unusual for mail surveys requiring voluntary cooperation of respondents.

Environmental and genetic influence on parenting

On pages 4-5, the questionnaire contained a shortened 36 item version of Schaefer's Children's Reports of Parental Behavior inventory. Schludermann and Schludermann's (1970) factor analyses was used to select two scales to represent each of the three primary parenting dimensions. Within each scale, five items were randomly selected, except that eight items were taken from each Acceptance-Rejection Scale. Thus, the new inventory composition was Acceptance vs. Rejection (16 items, scales 1 & 16); Psychological Control vs. Psychological Autonomy (10 items, scales 9 & 15); and Firm vs. Lax Control (10 items, scales 12 & 18). Respondents indicated for each item the behavior of mother and father separately.

RESULTS

Sex and Zygosity

Six scale scores were computed by summing the item scores separately for each parent for each dimension of child rearing. To determine sex and zygosity effect, two way ANOVAs were carried out by sex and zygosity. Neither the main effects nor interactions were significant ($p < .05$). In addition to equal means, the twin method requires that total variances are equal for identical and fraternal twins. Except for Acceptance-rejection of mother (ARM), F-tests comparing identical vs. fraternal variances were not significant. However, for ARM the variance of identical twins (60.8) significantly exceeded that of fraternal twins (37.7; $F = 1.6$, $p < .05$). While this suggests some caution in the interpretation of twin results for this variable, it should be noted that fraternal variances exceeded identical for two variables so an overall tendency toward greater monozygotic variation was not found.

Age and sex of Parent

Correlations of the rearing variables with the child's age, possibly because of the restricted range (primarily high school), were all extremely

slight. In accord with previous research, mothers are perceived as somewhat more accepting and as using somewhat more psychological control than fathers, though in general there were strong relationships between perception of mothers' and fathers' parenting (mean $\bar{r}$ = .79).

Insert Table 1 about here

Twin Similarity

Intraclass correlations for identical and fraternal twins are presented in Table 1. The most striking result is that for two of the dimensions purely between family environmental factors determine perception of parenting, but for Affection vs. Rejection a strong genetic component is evident. Although for Acceptance vs. Rejection of mother the twin assumption of equal variances can be questioned, the genetic effect is even more pronounced for perception of father where all assumptions were met. While one cannot accurately estimate heritability from such small sample sizes, it is noteworthy that for the AR dimensions rough estimates of h^2 obtained by doubling the monozygotic-dizygotic difference (Falconer, 1960) yields figures of 106% (father) and 74% (mother). Thus, while for Psychological Control vs. Psychological Autonomy and Firm vs. Lax Control all the twin similarity can be attributed to common environment--indeed, three dizygotic correlations surpass the monozygotic, in principal most twin similarity for Affection vs. Rejection could be attributed to heredity. This basic pattern of results was upheld when the correlational analyses were repeated for each sex separately.

DISCUSSION

The results for Psychological Control vs. Psychological Autonomy (PCPA) and Firm vs. Lax Control (FLC) fit closely the traditional conception of parenting. The twins agree that they are exposed to a common set of parenting expectations that in some families are permissive but in others are relatively controlling. Because research has demonstrated that at least on the level of group differences child and parental perceptions of rearing practices coincide (for example, Robinson, 1978), it is reasonable to infer that the twins' shared perceptions reflect actual circumstances in the home, though more research is needed that coordinates perceptions with direct observations of parenting. One can see that especially for Firm vs. Lax control that parents might make special efforts to treat their twins alike and thereby avoid family conflict that might result from preferential treatment of one twin.

In contrast, the findings for Acceptance vs. Rejection, which showed greater identical than fraternal twin similarity, seem to support a genetic interpretation. It is difficult to argue that this finding represents a violation of the "equal environments" assumption of the twin method, since this would require that parents of identical twins endeavor to treat them more alike just for this dimension of rearing and not the other two. Moreover, the fraternal intraclass correlation for AR is less than that for PCPA or for FLC. Why should parents of fraternal twins fail to maintain perceived similarity for this dimension? However, it is possible for inherited temperamental differences to account for the specificity of these results. Neuroticism, which seems to be genetically influenced, might make a fraternal

twin feel less loved than his cotwin who has inherited less of a disposition toward anxiety. Because parent rule setting, for example, is a fairly overt and identifiable set of behaviors on the parents' part, the twins may agree on this dimension despite their temperamental differences. However, whether Psychological Control, a dimension that includes the extent to which parents use guilt induction to control their childrens' behavior is also more overt is uncertain. Together, these results suggest that causal interpretations of perceived parenting dimensions--which often depend on the assumption that this variable can be treated as a surrogate for directly ascertained environmental effects--may need considerable reconsideration and should be researched by strategies able to partial out any genetic contribution to perceived Acceptance-Rejection.

Table 1

Intraclass Correlations for Perceived Parenting Dimensions

Perception of Father	MZ	DZ
Acceptance-Rejection[a]	.74	.21
Psychological Control vs. Psychological Autonomy	.43	.46
Firm vs. Lax Control	.43	.45

Perception of Mother	MZ	DZ
Acceptance-Rejection[b]	.54	.17
Psychological Control vs. Psychological Autonomy	.44	.47
Firm vs. Lax Control	.55	.46

Note: Computed by double entry method; $r > .30$, $p < .05$

a. Z value for significance of difference between two correlations: $Z = 3.36$, $p < .001$

b. Z value for significance of difference between two correlations: $Z = 1.96$, $p < .05$

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